



# How does the built environment influence the pedestrian action space of seniors in Rouyn-Noranda, Quebec?

## Preliminary results

By Aimée Thouin

29 May 2015

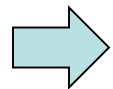
# Background

- Aging population
  - Aging and health/capacity
  - Impact of aging on mobility
- Reality of aging in regional cities (small and medium-sized communities)

# Research question/objective

Question : **How does the built environment influence the pedestrian action space of seniors in Rouyn-Noranda, Quebec?**

- Objective :
  - Define the action space of older pedestrian
  - Evaluate the walking environment in two ways : objective and subjective

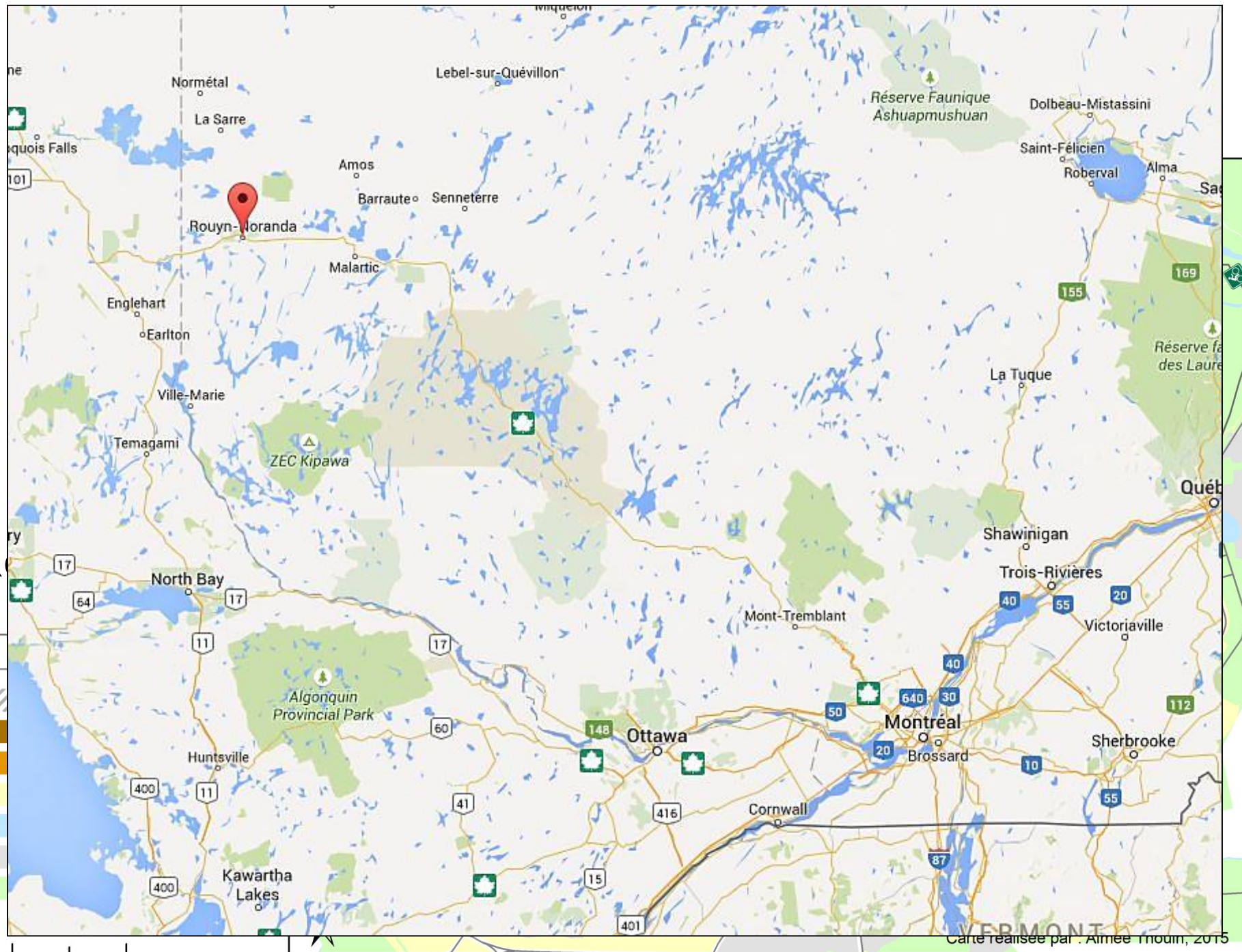


Pedestrian action space: all places where pedestrian observe practice (adapted from Lord, Joerin et Thériault, 2009)

The header features a collage of scientific illustrations on a blue background. On the left, a line graph shows multiple data series with markers. In the center, there's a chemical structure of a benzene ring with a side chain, and below it, the text  $[Cd] = [Cd^{2+}] = 10 \text{ nmol L}^{-1}$ . To the right, there's a waveform graph, a chemical structure of  $CH_2OH$ , and a topographic map. 

# Methodology





# Methodology

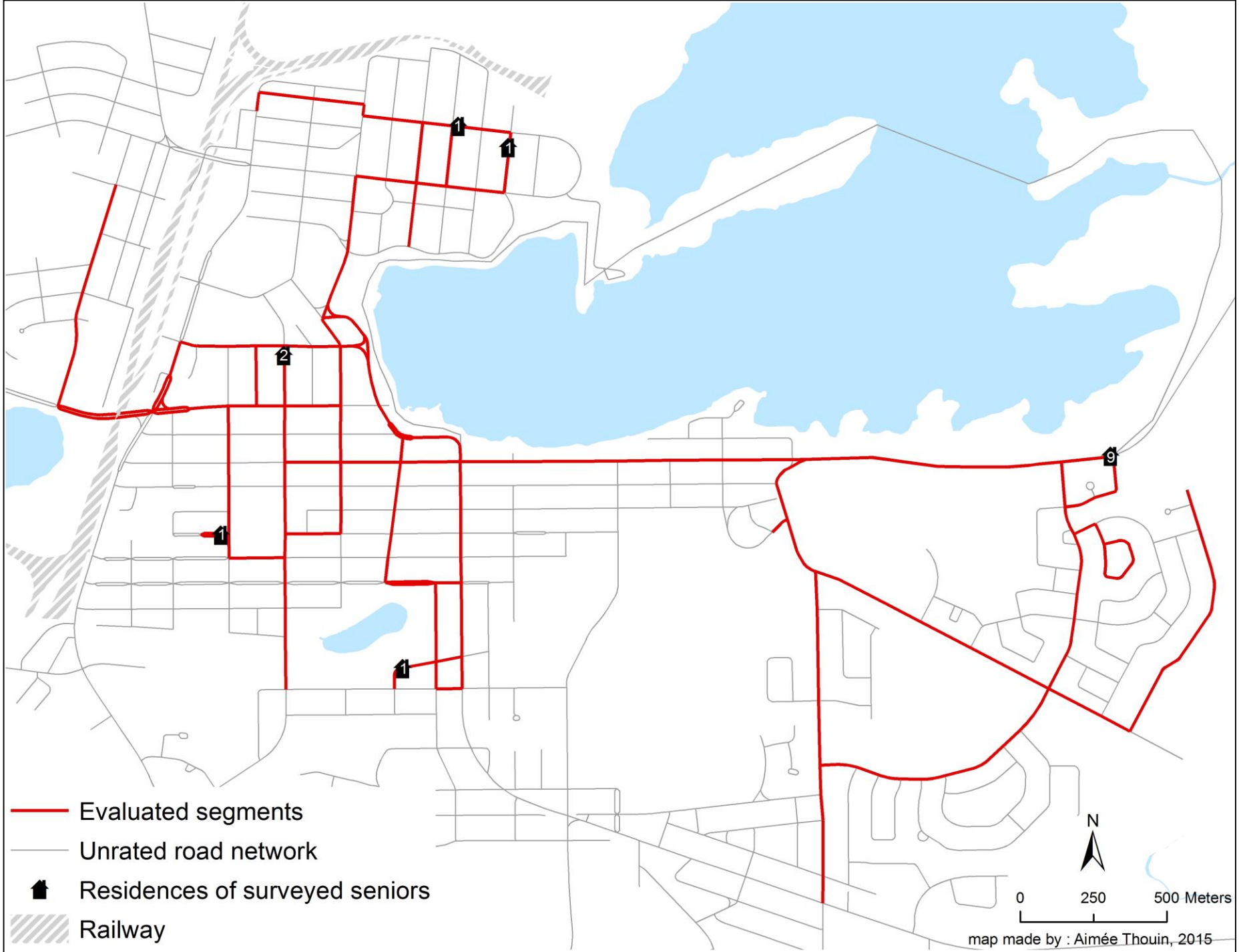
1. Interviews with elders : to collect their itinerary and opinions
- 2. Audits with a predetermined grid : walkability trips**
3. Spatial analysis on the collected data : distance ellipse, network analysis, analysis of walkability (maps)

# Pedestrian audit, example

Grid 1 : walking potential centered on sidewalks		
	Even side of the street	Odd side of the street
<b>Sidewalk presence</b>	Across the linear Partially Not at all	Across the linear Partially Not at all
<b>Sidewalk width</b>	Min : Max :	Min : Max :
<b>Lighting</b>	No lighting Oriented on the sidewalk Oriented on the road Double device	No lighting Oriented on the sidewalk Oriented on the road Double device

## Grid 2 : information and attractiveness of the street segment

Grid 3 : security and planning of sites crossing		
<b>Lights presence</b>	Vehicles Pedestrians With call button	
	Even side of the street	Odd side of the street
<b>Planning of edge crossing</b>	Speed limiter Tactile band Lighting crossing	Speed limiter Tactile band Lighting crossing
<b>Width of crossing</b>		
<b>Lowering the sidewalk</b>	Total Partial Not at all	Total Partial Not at all





# Results

# Results

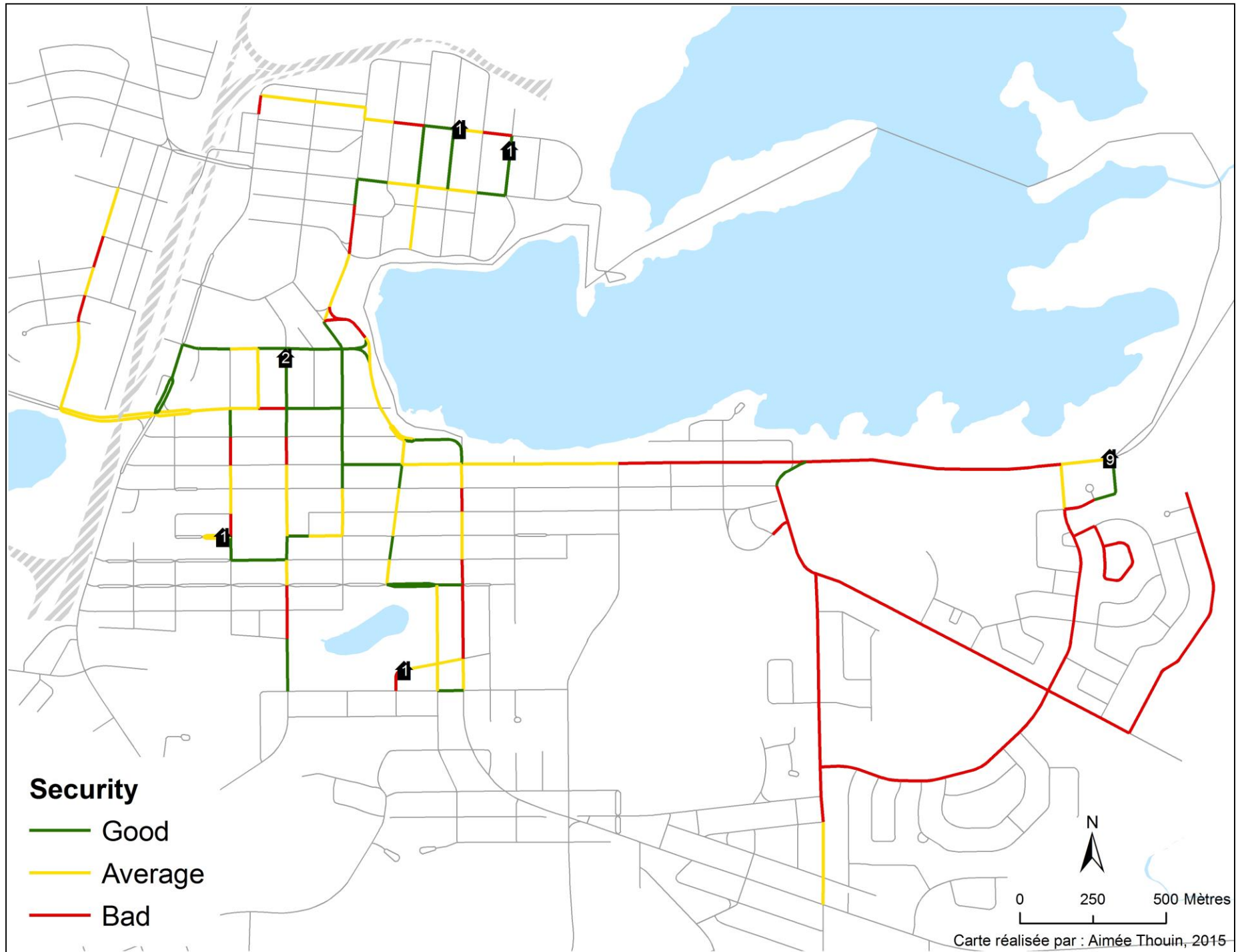
Socio-demographic description	
Characteristics	Number
<b>Age</b>	
65 - 74 years	4
75 - 85 years	8
86 and over	3
<b>Sex</b>	
Woman	10
Man	5
<b>Occupation status</b>	
Employee	2
Retired	13
<b>Type of accomodation</b>	
Home	3
Apartment	3
Seniors' residence	9
<b>Health status (self-reported)</b>	
Very good	7
Good	7
Average	1
Bad	0
Very bad	0
<b>Number of surveyed seniors</b>	15

Mobility description	
Characteristics	Number
<b>Has driving license</b>	
Yes	8
No	7
<b>Frequency walk/ week</b>	
Rarely	2
Over 2 x but not every day	6
About once a day	5
Several times a day	2
<b>Walking time / frequency</b>	
15-20 minutes	2
30 minutes	5
45 minutes	2
60 minutes and +	6
<b>Main means of transportation</b>	
Car (driver)	1
Car (passenger)	4
Walk	10
<b>Second means of transportation</b>	
Car (driver)	6
Taxi	3
Shuttle (provided by the residence)	3
Walk	2
Bike	1

# Results

5 indicators of walkability						
	Security	Accessibility	Safety	Attractiveness	Aesthetics	Total
Min	3	13	4	0	4	32
Max	22	21	12	14	16	74
Mean	11	17	6	1	8	44
Max possible score	33	31	12	18	22	116
Score						
Good	46	50	28	6	13	10
Average	63	81	75	14	107	62
Bad	65	43	71	154	54	102

n=174





Montée du Sourire

« I like to go walking in this area,  
it's residential, tranquil and beautiful.  
There are new homes to see »

« This is a quiet residential area,  
there are beautiful houses »

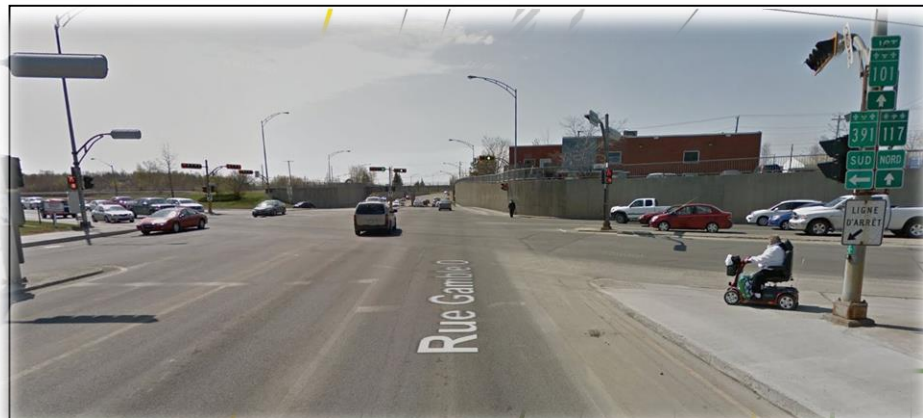
« It's a beautiful area and it's  
near the residence »

### Security

- Good
- Average
- Bad



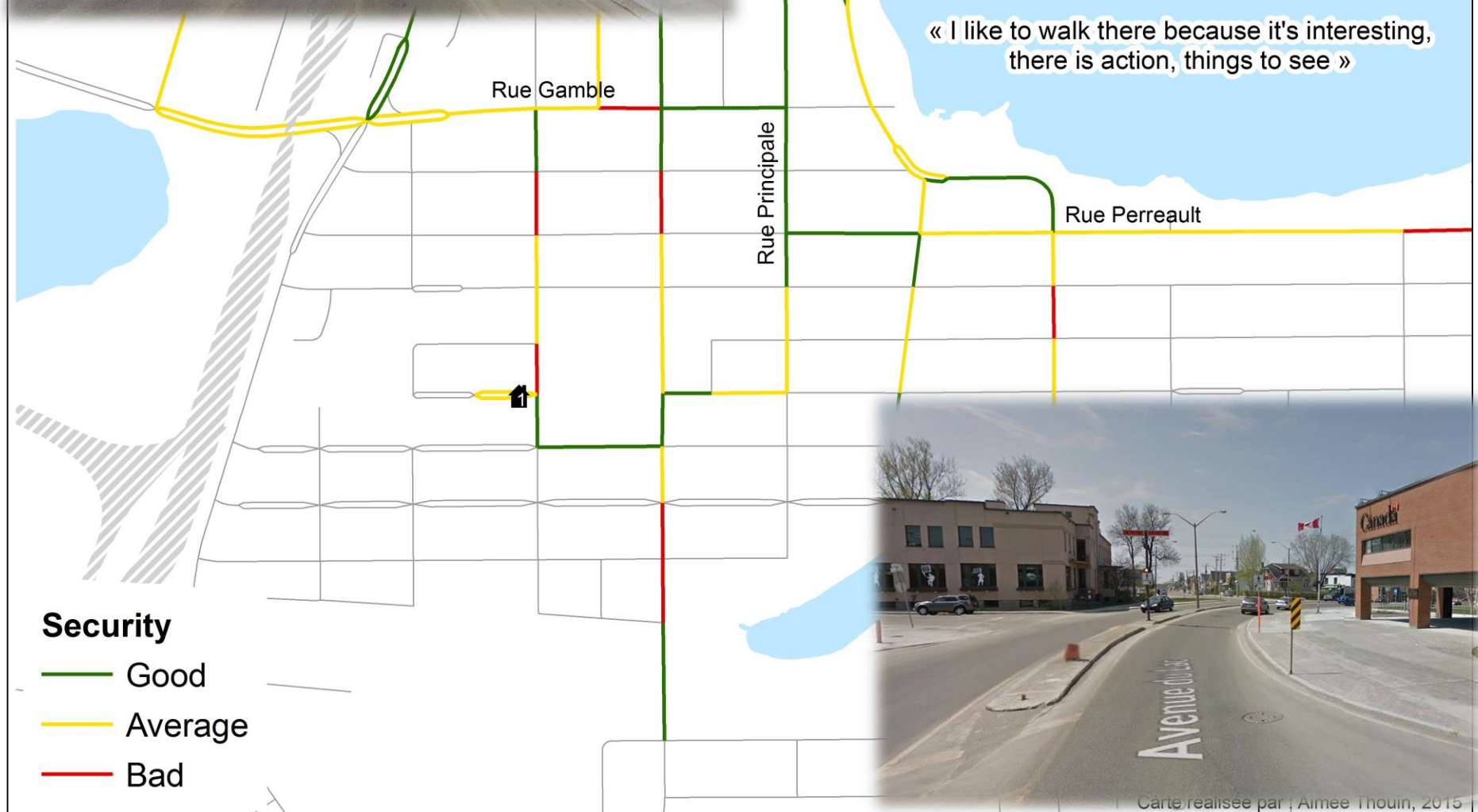




« I'm afraid to go to the pedestrian crossing [...],  
i'm afraid that the cars do not stop »

« I don't like the viaduct on the Gamble street.  
The traffic light is not obvious to cross »

« I like to walk there because it's interesting,  
there is action, things to see »



### Security

- Good
- Average
- Bad



## Discussion

- Elders in less dense regional cities also walk (for fun and active transportation)
- Grids made for dense urban areas (road safety) are not adapted to this environment
- Contradictions between what is «safe» and where they like to walk...
- How to ensure their safety while allowing them to walk in the places **they consider pleasant**

The header features a blue background with various scientific illustrations. On the left, there's a line graph with multiple data series. In the center, a chemical structure of a benzene ring is visible, along with the text  $[Cd] = [Cd^{2+}] = 10 \text{ nmol L}^{-1}$ . To the right, there's a diagram of a person's silhouette with internal organs highlighted, and a topographic map. The text "Thank you for your attention!" is prominently displayed in a large, bold, blue font.

# Thank you for your attention!

Questions, comments, suggestions...?

By Aimée Thouin

29 May 2015